Best Practice Initiative
from the Assistant Secretary for Health
U.S. Department of Health and Human Services

UTAH DEPARTMENT OF HEALTH
MANAGING THE PUBLIC HEALTH IMPACTS OF HOSTING THE 2002 WINTER OLYMPICS

Introduction

The Salt Lake City 2002 Winter Olympics and Paralympics were the largest mass gatherings to occur in the United States since the 1996 Summer Olympics in Atlanta. During the Olympics, a six county area in Utah experienced an average population increase of 100,000 people per day over a 17 day period. In addition, an estimated 3.5 billion people around the world watched some portion of the 2002 Olympics on television each day, bringing international press attention and creating a high profile potential platform for terrorist activity. Lessons learned from this event can provide valuable information for communities hosting other large-scale events including religious and political gatherings, music festivals, and sports competitions that challenge local public health capacity due to attendance, duration, health risks, and security concerns.

The five major areas of public health responsibility related to large scale events include 1) Emergency Medical Services, 2) Environmental and Food Safety Regulation, 3) Disease Surveillance and Outbreak Response, 4) Public Information and Health Promotion, and 5) Event Operations and Disaster Preparedness. In addition, significant administrative support was required to implement the plans in each of these five operational areas. For the 2002 Winter Olympics, three State agencies [Environmental Quality, Agriculture and Food, and Health (UDOH)]; and six local health departments were responsible for carrying out the activities necessary to assure that each of these areas of concern were adequately addressed.

These nine agencies voluntarily entered into an inter-local agreement in 1998 creating the Environmental and Public Health Alliance for the 2002 Winter Games (EPHA). While the individual partner agencies retained all authority and responsibility within their statutory jurisdictions, EPHA assured that planning, resource utilization, and communications occurred among the member and partner agencies in a coordinated and efficient manner. In addition, the local, state, federal, and private partners listed in Table I were also closely involved with the individual agencies or EPHA in Olympic planning and operations. Within the Utah Department of Health, each function had a formally-designated team leader who was responsible for the state level planning and implementation of the necessary activities.

Table I - Environmental and Public Health Alliance

Federal Environmental and Health Agencies	**Other Local Agencies**
Health and Human Services	**County Governments**
HHS Region VIII Office	**Local Boards of Health**
Food and Drug Administration	**Venue Communities**
Office of Emergency Preparedness	**Law Enforcement, Fire and EMS Agencies**
Centers for Disease Control and Prevention	
Environmental Protection Agency	**Other State Agencies**
United States Department of Agriculture	**Utah Olympic Public Safety Command**
	Utah Department of Public Safety
Other Federal Agencies	**Comprehensive Emergency Management**
Federal Bureau of Investigation	**Utah Department of Transportation**
U.S. Secret Service	**Utah State Olympic Office**
Department of Energy	**University of Utah Health Sciences Center**
Private Agencies	
Salt Lake Organizing Committee	
Intermountain Health Care	
American Red Cross	

Public Health Functions Related to Large-Scale Special Events

The core activities of each of the five main functional areas necessary to support the 2002 Winter Olympics and the related administrative support are described below.

1) Emergency Medical Services

Example of an Olympic-specific task: In order to temporarily increase the number of available ambulances, vehicle replacements were planned two-three years in advance and staged to create a period of service overlap where both new and aging vehicles were used.

Selected Olympic responsibilities:

-assuring adequate Olympic venue and community EMS capacity including staffing, vehicles, supplies and equipment;
-coordinating routine and emergency interagency communications;
-assuring adequate contingency capacity through mutual aid agreements, federal assets, etc.; and
-assuring and coordinating adequate community and state level disaster planning among EMS agencies.

2) Environmental and Food Safety Regulation

Example of an Olympic-specific task: Long lines of idling buses used to transport spectators created noxious fumes and were associated with complaints of illness among event staff and spectators at several locations. The involved public health agencies worked together with an environmental compliance officer designated by the event organizers to develop and implement ways to evaluate and respond to this concern across all venue locations.

Selected Olympic responsibilities:

-assuring adequate Olympic venue and community public health capacity to inspect and enforce the following activities and services: food preparation and service, drinking water, air quality, waste water, solid and hazardous waste, and other mass gathering requirements;
-monitoring environmental and food violations across jurisdiction for systemic trends;
-facilitating the resolution of systemic problems with event organizers; and
-coordinating interagency communications.

3) Disease Surveillance and Response

Example of an Olympic-specific task: The peak of influenza activity coincided with the Olympic operations period, complicating the ability to rapidly detect a cluster of serious respiratory illness that might indicate an outbreak of another respiratory illness including the covert release of a bioterrorism agent. Additional emergency room influenza testing capacity, essential workforce absenteeism surveillance, and bioterrorism agent air monitoring devices were planned and implemented to improve the specificity and sensitivity of the disease surveillance system.

Selected Olympic responsibilities:

-coordinating and assuring adequate disease surveillance across multiple local jurisdictions including notifiable disease surveillance, syndromic surveillance, sentinel site surveillance, and injury surveillance;
-conducting multi-jurisdictional disease trend analysis; and
-coordinating and assuring adequate epidemiologic event investigation and response.

4) Public Information and Health Promotion

Example of an Olympic-specific task: Traditional winter temperature inversions resulted in periodically observable increases in air pollution in the Salt Lake Valley during the 2002 Olympics. This generated significant interest and concern about the related health effects among the press and some national Olympic teams. Pre-written joint statements from the Department of Environmental Quality and the Department of Health were issued twice daily during these periods reporting the level of pollutants (principally PM 2.5) along with related health recommendations for both the at-risk and general populations and reminders of required or voluntary pollutant reduction measures.

Selected Olympic responsibilities:

-providing news media inquiry response and coordination;
-assuring round the clock coverage at the state Joint Information Center (JIC);
-promoting and clarifying public health agency roles and services to residents and visitors; and
-implementing visitor health promotion and prevention strategies related to specific risks, including motor vehicle injuries (pedestrians, children, and visitors), cold weather and altitude exposures, falls, and medical care and translation services information.

5) Olympic Operations/Disaster Preparedness

Example of an Olympic-specific task: The sudden awareness of strong odors resulting in immediate symptom complaints were reported at an Olympic-related retail location in downtown Salt Lake City. This incident was initially considered a potential hazardous materials/terrorist incident. The public health desks at the Olympic Command Center and public health operations center were able to assure notification of the appropriate local public health officials as well as provide rapid accurate information to other local, state and federal agencies to help assure their appropriate involvement and response. This incident was later determined to be either a prank or inadvertent exposure when broken glass vials were found at the scene that were later determined by the public health laboratory to contain ammonium nitrite.

Selected Olympic responsibilities:

-incident identification and appropriate interagency notification and response coordination;
-daily activity reports;
-all hazards disaster response capacity, including public health roles and responsibilities, health systems disaster response coordination, incident command, risk communications, and contingency resource requirements and deployment;
-bioterrorism prevention, detection, and response; and
-conducting tabletop and mock field exercises.

6) Administration

Example of an Olympic-specific task: In a final review of infrastructure security weaknesses, it was determined that our own Department had not systematically performed security screening on employees with access to critical public health functions including bioterrorism detection and response capacity. A criminal background check process was quickly implemented for all employees with Olympic-related assignments including all epidemiology, lab, and operations center staff.

Selected Olympic responsibilities:

-coordination of all Olympic-related public health planning and operations (both intra- and interagency);
-assuring core function staffing capacity;
-developing the budget and assuring adequate financial resources;
-assuring adequate legal consultation;
-developing necessary information technology support;
-developing necessary facility support;
-planning and implementing essential internal infrastructure security measures; and
-documenting planning, operations, incidents, and lessons learned.

Important General Lessons Learned:

Optimal EMS performance during a large-scale mass gathering requires a planning and operations mechanism that balances local control with strong multi-jurisdictional coordination, resource acquisition, and operational support.

Due to the Olympics' prolonged duration and simultaneous multi-site events, implementing an inspection and enforcement effort for temporary food service and mass gathering could not be based simply on an expansion of the protocols used during smaller, shorter local mass gatherings such as weekend arts festivals, etcetera. Unique aspects included the implementation of a special large event mass gathering fee, a standardized regulatory data collection and analysis effort across multiple jurisdictions, and the augmentation of local inspection staff capacity with external staff resources.

Active, enhanced, disease surveillance creates a ripple effect of increased community awareness, increased spontaneous reporting, and the need for external communication. This resulted in a substantial increased program workload for all aspects of public health epidemiology.

A Joint Information Center (JIC) was essential in coordinating routine and emergency press inquiries and agency responses. State agencies responsible for Health, Environmental Quality, Public Safety, Transportation, Comprehensive Emergency Management along with local, federal, and private agencies used the JIC to coordinate press information to assure that accurate, clear, and consistent information was provided to the public.

Changing to a rapid, extensively broadcast, public health incident notification system resulted in a unique set of challenges, including the need for timely verification of information prior to dissemination, clear communication protocols to assure the appropriate response from each agency notified, and education of agency staff who were unaccustomed to receiving notification when no immediate response was requested. Field and tabletop mock exercises with a follow-up debriefing session to identify specific action steps and assignments were the most valuable mechanism to identify disaster preparedness deficiencies and improve system capacity. Public health officials need to be well-trained in the incident command model of emergency situation management used by traditional first responders (police, fire, EMS) in order to better integrate public health disaster response efforts with these other agencies.

When considering public agency support of large-scale events like the Olympics, public health requirements are not as obvious to event organizers as law enforcement and transportation requirements and therefore public health officials must begin early and be assertive in assuring adequate recognition, planning, and resources to be successful.

Summary

Large-scale mass gatherings like the 2002 Winter Olympics are held regularly but do not occur often enough in most communities for any one public health agency to become skilled in supporting such an event. It is important that the accumulated knowledge about fulfilling these responsibilities be readily available so that the health and safety of those involved can be optimized. This requires an international mechanism for assistance since the health and safety of large number of participants from different nations become the responsibility of the host nation during the event, and the most recent experience with such an effort may have occurred in another country.

The preparations for such an event can also contribute to the effort of organizing communities to respond to major disasters including those caused by bioterrorism agents and other weapons of mass destruction. The Utah Department of Health is currently preparing quantitative analyses of the activities described above and we plan to make these reports publicly available over the next year to add to this body of knowledge.

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